United Nations A/73/373

General Assembly

Distr.: General
7 September 2018

Original: English

Seventy-third session
Item 78 (a) of the provisional agenda*
Oceans and the law of the sea: oceans and the law of the sea

Report on the work of the Ad Hoc Working Group of the Whole on the Regular Process for Global Reporting and Assessment of the State of the Marine Environment, including Socioeconomic Aspects

Letter dated 7 September 2018 from the Co-Chairs of the Ad Hoc Working Group of the Whole addressed to the President of the General Assembly

We have the honour to transmit to you the attached report on the work of the Ad Hoc Working Group of the Whole on the Regular Process for Global Reporting and Assessment of the State of the Marine Environment, including Socioeconomic Aspects, which met at United Nations Headquarters on 23 and 24 August 2018 pursuant to paragraph 330 of General Assembly resolution 72/73. Section III of the report sets out the agreed recommendations of the Ad Hoc Working Group of the Whole to the General Assembly at its seventy-third session. Section IV of the report contains guidance for the Bureau, the Group of Experts and the secretariat of the Regular Process concerning the implementation of the second cycle of the Regular Process.

We kindly request that the present letter and the report be circulated as a document of the General Assembly under the agenda item entitled "Oceans and the law of the sea".

(*Signed*) Juliette **Babb-Riley**

(*Signed*) Minna-Liina **Lind**

* A/73/150.

18-14907 (E) 180918

Please recycle

Report of the Ad Hoc Working Group of the Whole on the Regular Process for Global Reporting and Assessment of the State of the Marine Environment, including Socioeconomic Aspects

I. Report of the Ad Hoc Working Group of the Whole

1. The eleventh meeting of the Ad Hoc Working Group of the Whole on the Regular Process for Global Reporting and Assessment of the State of the Marine Environment, including Socioeconomic Aspects was convened pursuant to paragraph 330 of General Assembly resolution 72/73. The meeting of the Working Group was held at United Nations Headquarters in New York on 23 and 24 August 2018.

2. The Co-Chairs of the Working Group, Juliette Babb-Riley (Barbados) and Minna-Liina Lind (Estonia), opened the meeting. The Assistant Secretary-General for Legal Affairs delivered opening remarks on behalf of the Secretary-General. The meeting observed a minute of silence in honour of former Secretary-General of the United Nations, Kofi Annan, who passed away on 18 August 2018.

3. Representatives of 59 Member States, [1] one non-member State, [2] four intergovernmental organizations and other bodies [3] and two non-governmental organizations [4] attended the meeting.

4. The following members of the Group of Experts of the Regular Process, established pursuant to paragraph 287 of General Assembly resolution 70/235, also attended the meeting: Anastasia Strati (Greece), Chul Park (Republic of Korea), Carlos García Soto (Slovakia) and Alan Simcock (United Kingdom of Great Britain and Northern Ireland). Alan Simcock participated in his capacity as Joint Coordinator of the Group of Experts.

5. The following supporting documentation was available to the meeting: a provisional agenda; an annotated provisional agenda; a format; a proposed organization of work; a note by the Joint Coordinators on the preliminary timetable and implementation plan for the second cycle of the Regular Process; a note by the Joint Coordinators on the annotated outline of the second world ocean assessment; and a draft agenda and draft concept note for the multi-stakeholder dialogue and capacity-building partnership event to be held in January 2019.

6. The Working Group adopted the agenda (see sect. II below) and agreed on the organization of work as proposed by the Co-Chairs.

7. Under agenda item 4, the Co-Chairs presented the report of the Bureau of the Working Group regarding developments in the implementation of the programme of work for the period 2017–2020 for the second cycle of the Regular Process since the previous meeting of the Working Group. Several delegations made general statements under the agenda item, welcoming the report and the intersessional work of the

[1] Angola, Argentina, Australia, Austria, Azerbaijan, Bangladesh, Barbados, Bulgaria, Burundi, Canada, Chile, China, Colombia, Croatia, Czechia, Ecuador, Estonia, Finland, Ghana, Greece, India, Indonesia, Israel, Italy, Jamaica, Japan, Lithuania, Madagascar, Malaysia, Maldives, Malta, Mauritius, Mexico, Monaco, Morocco, Nepal, New Zealand, Nicaragua, Nigeria, Norway, Palau, Philippines, Portugal, Republic of Korea, Romania, Russian Federation, Sao Tome and Principe, Serbia, Seychelles, Singapore, Slovenia, Spain, Sri Lanka, Thailand, Togo, Turkey, Ukraine, United States of America and Uruguay.

[2] Holy See.

[3] Asian-African Legal Consultative Organization, European Union, United Nations Environment Programme and United Nations Secretariat (Department of Economic and Social Affairs).

[4] International Ocean Institute and International Ship Managers' Association.

Bureau and expressing their appreciation for the work of the Co-Chairs, the Bureau, the Group of Experts and the secretariat during the intersessional period. A number of delegations highlighted the progress made in the nomination of experts to the Pool of Experts, the approval by the Bureau of the list of lead and co-lead members for the second world ocean assessment, the addition of an expert to the Group of Experts, the operationalization of the second round of regional workshops and the successful launch of the new Regular Process website. A delegation highlighted the importance of a fully-constituted Group of Experts. Several delegations welcomed the multi-stakeholder dialogue and capacity-building partnership event to be held in January 2019, noting that it would, inter alia, provide a forum to identify the capacity-building needs of States in order to fulfil the objectives of the Regular Process. Some delegations provided information on their ongoing capacity-building activities. The Working Group took note of the report of the Bureau.

8. Under agenda item 5, the Working Group considered a note presented by the Joint Coordinator, Alan Simcock, on the implementation of the preliminary timetable and implementation plan for the second world ocean assessment (see annex I). A number of delegations expressed their appreciation for the progress made in the implementation of the second cycle of the Regular Process. Some delegations expressed concern regarding the delays in implementing the preliminary timetable and implementation plan, in particular in relation to the establishment of the writing teams for the chapters of the second world ocean assessment and the ability to keep to a number of timelines. Some delegations observed a need for more communication between the Group of Experts and members of the Pool of Experts, including with regard to their roles and expected functions. A delegation noted the important role of peer-reviewers in the preparation of the second world ocean assessment and a view was expressed that there was a need to accommodate nominations of experts as peer-reviewers even after the establishment of the writing teams.

9. The Joint Coordinator noted that the Group of Experts was working towards establishing all the writing teams and would then have a better understanding of the gaps in expertise and geographical representation. He noted that members of the Pool of Experts had been requested to indicate their preferred roles, either as writing team members or peer-reviewers, and that any shortages in peer-reviewers would be referred to national focal points for their assistance in identifying additional ones. Given that the aim was to have small writing teams, he also noted that more experts from the Pool of Experts could be involved as commentators to ensure that all members played a role in the preparation of the second world ocean assessment. Regarding the communications system between the Group of Experts and the Pool of Experts, the Joint Coordinator noted that a periodical newsletter could be developed to facilitate this.

10. The Working Group requested the Group of Experts to prepare a revised preliminary timetable and implementation plan for the second world ocean assessment. It also requested its Bureau to consider and adopt the revised preliminary timetable and implementation plan for the second world ocean assessment, keep it under review and oversee its implementation.

11. Under agenda item 6, and pursuant to a request made to the Group of Experts during its tenth meeting (see A/73/74, para. 22 (a)), the Working Group considered a note by the Joint Coordinators of the Group of Experts providing an update on the development of the annotated outline for the second world ocean assessment (see annex II). This note, presented by the Joint Coordinator, Alan Simcock, set out the views of the Joint Coordinators with regard to the steps towards the development of the annotated outline. The Joint Coordinator noted that the annotated outline required inputs from writing teams and could only be prepared once all the writing teams were approved. Given that most of the writing teams would likely be approved later in

2018, the Joint Coordinator considered that the annotated outline would likely be finalized in the forthcoming months. A delegation made proposals in relation to the outline contained in the note, which were accepted by the Joint Coordinator. In response to a query by a delegation regarding the gaps in expertise in the Pool of Experts, the Joint Coordinator noted that there was a need for more experts from the socioeconomic field and that there were gaps in regional representation that needed to be filled in order to effectively support the preparation of the second world ocean assessment.

12. The Working Group considered and took note of the progress made in the preparation of the annotated outline. The Working Group requested the Group of Experts to advise as soon as possible on the areas where the required expertise for the preparation of the second world ocean assessment might be lacking, and on the regions which to date had been underrepresented in the Pool of Experts. The Working Group also requested the secretariat to transmit a request to States to nominate, and to intergovernmental organizations to recommend, experts from the underrepresented regions and with the relevant expertise.

13. The Working Group further requested the Group of Experts to prepare, in the light of the comments received, the annotated outline for the second world ocean assessment, to be considered and adopted by the Bureau in the intersessional period. The Working Group requested its Bureau to continue to oversee the ongoing process of the constitution of writing teams for the preparation of the second world ocean assessment. In the light of the need to take into account nominations of experts by States other than their States of nationality, the Bureau was also requested to review the mechanism for the establishment of the Pool of Experts for the second cycle of the Regular Process, developed by the Bureau of the Working Group in accordance with paragraph 311 of General Assembly resolution 71/257.

14. Under agenda item 7, the Working Group considered the second round of regional workshops held in accordance with the programme of work for the second cycle of the Regular Process, for the years 2017–2020. It was noted that following the formal offers to host regional workshops for the second round in 2018 received by the secretariat (see A/73/74, para. 22 (e)), the Bureau had decided that there would be a total of seven regional workshops. The Working Group also considered and took note of the information provided by the Joint Coordinator, Alan Simcock, and by a member of the Group of Experts, Chul Park, regarding the first workshop of the second round of regional workshops, which was held in Koror, Palau, on 8 and 9 August 2018.

15. Under agenda item 8, the Working Group considered the draft concept note and draft agenda for the multi-stakeholder dialogue and capacity-building partnership event scheduled to be held in January 2019 at United Nations Headquarters in New York, prepared by the Bureau in consultation with the Group of Experts and the secretariat. It was noted that a delegation had submitted written comments on the drafts to the secretariat, which were made available to all delegations.

16. The Working Group requested its Bureau, in consultation with the Group of Experts and the secretariat, to finalize the concept note and draft agenda for the multi-stakeholder dialogue and capacity-building partnership event in the light of the comments received and discussions at the eleventh meeting of the Working Group. The Working Group requested the secretariat to invite States, intergovernmental organizations and non-governmental organizations to contribute to the multi-stakeholder dialogue and capacity-building partnership event, including by nominating panellists, with due attention given to equitable geographical representation and gender balance in the selection of panellists. The Working Group further requested its Bureau, in consultation with the Group of Experts and the

secretariat, to draw up a list of panellists for the multi-stakeholder dialogue and capacity-building partnership event from representatives of States, intergovernmental organizations and non-governmental organizations.

17. Under agenda item 9, the Working Group considered the draft recommendations and guidance to the Bureau, the Group of Experts and the secretariat. Under agenda item 10, the Director of the Division for Ocean Affairs and the Law of the Sea reported on the status of the voluntary trust fund for the purpose of supporting the operations of the Regular Process and noted that, since the tenth meeting of the Working Group, the trust fund had received a contribution from New Zealand. Delegations were encouraged to continue to contribute to the trust fund and to make other contributions to the Regular Process pursuant to the appeal from the General Assembly in paragraph 329 of its resolution 72/73.

Adoption of recommendations to the General Assembly at its seventy-third session

18. The Working Group adopted by consensus the draft recommendations for the consideration of the General Assembly at its seventy-third session (see sect. III). The Working Group also adopted the guidance to the Bureau, the Group of Experts and the secretariat (see sect. IV).

II. Agenda of the eleventh meeting of the Ad Hoc Working Group of the Whole

19. The Ad Hoc Working Group of the Whole adopted the agenda set out below.

1. Opening of the meeting.
2. Adoption of the agenda.
3. Organization of work.
4. Report of the Bureau of the Ad Hoc Working Group of the Whole.
5. Information from the Group of Experts regarding implementation of the preliminary timetable and implementation plan for the second cycle of the Regular Process.
6. Annotated outline for the second world ocean assessment.
7. Second round of regional workshops.
8. Multi-stakeholder dialogue and capacity-building partnership event.
9. Adoption of recommendations to the General Assembly at its seventy-third session.
10. Other matters.
11. Closure of the meeting.

III. Recommendations of the Ad Hoc Working Group of the Whole to the General Assembly at its seventy-third session

20. The Ad Hoc Working Group of the Whole recommends to the General Assembly that it:

(a) Reiterate the need to strengthen the regular scientific assessment of the state of the marine environment in order to enhance the scientific basis for policymaking;

(b) Reaffirm the principles guiding the Regular Process for Global Reporting and Assessment of the State of the Marine Environment, including Socioeconomic Aspects and its objective and scope as agreed upon at the first meeting of the Ad Hoc Working Group of the Whole in 2009;

(c) Recall that the Regular Process, as established under the United Nations, is accountable to the General Assembly and is an intergovernmental process guided by international law, including the United Nations Convention on the Law of the Sea and other applicable international instruments, and takes into account relevant Assembly resolutions;

(d) Reaffirm the importance of the first World Ocean Assessment as the outcome of the first cycle of the Regular Process;

(e) Reiterate its concern at the findings of the first World Ocean Assessment that the world's ocean is facing major pressures simultaneously with such great impacts that the limits of its carrying capacity are being, or, in some cases, have been reached, and that delays in implementing solutions to the problems that have already been identified as threatening to degrade the world's ocean will lead, unnecessarily, to incurring greater environmental, social and economic cost;

(f) Recall the importance of making Governments, United Nations system organizations, bodies, funds and programmes, intergovernmental organizations, the scientific community and the general public aware of the first World Ocean Assessment and the Regular Process, and recognize with appreciation the activities undertaken in this regard during various intergovernmental meetings;

(g) Also recall the technical abstracts of the first World Ocean Assessment on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction; the ocean and the Sustainable Development Goals under the 2030 Agenda for Sustainable Development; and the impacts of climate change and related changes in the atmosphere on the oceans, prepared in accordance with the programme of work for the period 2017–2020 for the second cycle of the Regular Process;

(h) Further recall that advance unedited copies of the technical abstracts were made available to the Preparatory Committee established by General Assembly resolution 69/292, the eighteenth meeting of the United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea and the United Nations Conference to Support the Implementation of Sustainable Development Goal 14;

(i) Recall the decision that, in the first cycle, the scope of the Regular Process focused on establishing a baseline, and that the scope of the second cycle would extend to evaluating trends and identifying gaps;

(j) Also recall the decision that the Regular Process shall be overseen and guided by the Ad Hoc Working Group of the Whole, and that the Ad Hoc Working Group shall facilitate the delivery of the outputs of the second cycle as outlined in the

programme of work for the period 2017–2020 for the second cycle of the Regular Process;

(k) Recognize with appreciation the important role of the Co-Chairs and the Bureau of the Ad Hoc Working Group of the Whole in providing guidance during the intersessional periods, including in operationalizing the second cycle of the Regular Process;

(l) Welcome the holding of the tenth and eleventh meetings of the Ad Hoc Working Group of the Whole, on 28 February and 1 March 2018 and on 23 and 24 August 2018, respectively, in accordance with paragraph 330 of General Assembly resolution 72/73;

(m) Take note of the recommendations and guidance adopted by the Ad Hoc Working Group of the Whole at its tenth meeting,[5] and endorse the recommendations adopted by the Ad Hoc Working Group at its eleventh meeting;

(n) Reaffirm its decision that in the elaboration of an outline, the Group of Experts of the Regular Process should proceed on the basis of the preparation of a single comprehensive assessment, and note the approval by the Ad Hoc Working Group of the Whole of the outline for the second world ocean assessment[6] in accordance with paragraph 330 of resolution 72/73;

(o) Take note of the preliminary timetable and implementation plan for the second world ocean assessment prepared by the Group of Experts in consultation with the secretariat of the Regular Process;

(p) Recall the endorsement by the Ad Hoc Working Group of the Whole of the terms of reference and working methods of the Group of Experts for the second cycle of the Regular Process, prepared in accordance with paragraph 310 of resolution 71/257,[7] and take note of the guidance for contributors, part II, prepared by the Group of Experts pursuant to paragraph 310 of resolution 71/257;[8]

(q) Note the appointment of an additional expert to the Group of Experts in accordance with paragraph 287 of General Assembly resolution 70/235, and urge regional groups that have not yet done so to appoint experts to the Group of Experts, taking into account the need to ensure geographical distribution and adequate expertise in socioeconomic disciplines;

(r) Welcome the expressions of interest of individuals who served in the Pool of Experts during the first cycle of the Regular Process to serve in the Pool of Experts for the second cycle;

(s) Also welcome the appointment of additional experts to the Pool of Experts for the second cycle of the Regular Process by States and through recommendations from relevant intergovernmental organizations, in accordance with the mechanism for the establishment of the Pool of Experts for the second cycle of the Regular Process,[9] and encourage the further appointment of experts to the Pool of Experts;

(t) Recognize with appreciation the continued work of the members of the Group of Experts and that of the Pool of Experts of the Regular Process in the implementation of the second cycle of the Regular Process;

---

[5] See A/73/74.

[6] Ibid., annex I.

[7] A/72/89, annex.

[8] See A/73/74, annex II. For part I of the guidance for contributors, see A/72/494, annex IV.

[9] A/72/494, annex I.

(u) Welcome the designation by States of national focal points pursuant to paragraph 315 of resolution 72/73, and urge States that have not yet done so to designate their national focal points as soon as possible;

(v) Note the finalization and adoption by the Bureau of the Ad Hoc Working Group of the Whole of guidelines to assist the second round of workshops of the second cycle of the Regular Process,[10] prepared by the Group of Experts in consultation with the Bureau of the Ad Hoc Working Group and the secretariat of the Regular Process;

(w) Take note of the summaries of the first round of regional workshops in support of the second cycle of the Regular Process, held in Lisbon in September 2017, in Auckland, New Zealand, in October 2017, in Camboriú, Brazil, in November 2017, in Bangkok in November 2017 and in Zanzibar, United Republic of Tanzania, in December 2017, which informed the preparation of the outline for the second world ocean assessment and will assist in the identification of additional experts for the Pool of Experts and the identification of issues for consideration at the multi-stakeholder dialogue and capacity-building partnership event;

(x) Take note of the offers to host regional workshops for the second round of regional workshops in 2018 in support of the second cycle of the Regular Process;

(y) Recall the crucial importance of the Regular Process for ongoing ocean-related intergovernmental processes and its possible inputs, including for the 2030 Agenda for Sustainable Development, the development of an international legally binding instrument, under the United Nations Convention on the Law of the Sea, on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction, the United Nations Framework Convention on Climate Change and the Informal Consultative Process, as outlined in the programme of work for the period 2017–2020 for the second cycle of the Regular Process;

(z) Also recall the importance of ensuring that assessments, such as those included in the Global Sustainable Development Report and those prepared under the Intergovernmental Panel on Climate Change, the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services and the Regular Process, support one another and avoid unnecessary duplication, and also recall the importance of compatibility and synergies between such assessments and assessments at the regional level;

(aa) Request intergovernmental and non-governmental organizations to provide information on recent and ongoing assessments and other processes at the regional and global levels relevant to the Regular Process in order for the secretariat to update the inventory of recent and ongoing assessments and other processes at the regional and global levels relevant to the Regular Process;

(bb) Take note with appreciation of the work undertaken thus far by the secretariat in compiling a capacity-building inventory of needs and opportunities relevant for the Regular Process, in accordance with the programme of work, based on information contributed by relevant United Nations system organizations, bodies, funds and programmes and by relevant intergovernmental organizations;

(cc) Invite States and non-governmental organizations, as well as intergovernmental organizations that have not already done so, to provide relevant information for inclusion in the capacity-building inventory of needs and

[10] The guidelines to assist the second round of workshops of the second cycle of the Regular Process are available from http://www.un.org/depts/los/global_reporting/10th_adhoc_2018/Elements.pdf.

opportunities relevant for the Regular Process being compiled and maintained by the secretariat;

(dd) Take note of the endorsement by the Ad Hoc Working Group of the Whole of the agenda for the multi-stakeholder dialogue and capacity-building partnership event to be held in 2019, and note that the Ad Hoc Working Group will consider the outcome of the dialogue and event at its twelfth meeting;

(ee) Recall its invitation, in paragraph 326 of resolution 72/73, to the Intergovernmental Oceanographic Commission, the United Nations Environment Programme, the International Maritime Organization, the Food and Agriculture Organization of the United Nations, the World Meteorological Organization and relevant United Nations system organizations, bodies, funds and programmes, as appropriate, to assist in the implementation of the second cycle of the Regular Process with regard to the following activities: awareness-raising, the identification of experts for the Pool of Experts, technical and scientific support for the Bureau and the Group of Experts, hosting meetings of the writing teams and capacity-building;

(ff) Also recall the adoption by the Assembly of the Intergovernmental Oceanographic Commission at its twenty-ninth session, from 21 to 29 June 2017, of decision IOC-XXIX/8.2, in particular regarding the provision of technical and scientific support to the second cycle of the Regular Process in accordance with the guidance of the Ad Hoc Working Group of the Whole;

(gg) Further recall its invitation, in paragraph 328 of resolution 72/73, to relevant intergovernmental organizations to contribute, as appropriate, to the activities of the second cycle;

(hh) Urge States, international financial institutions, donor agencies, intergovernmental organizations, non-governmental organizations and natural and juridical persons to make financial contributions to the voluntary trust fund[11] and to make other contributions to the Regular Process;

(ii) Request the Bureau to continue to implement the decisions and guidance of the Ad Hoc Working Group of the Whole during the intersessional period, including by providing oversight of the delivery of the programme of work for the period 2017–2020 for the second cycle of the Regular Process;

(jj) Request the Secretary-General to convene, in 2019, the twelfth meeting of the Ad Hoc Working Group of the Whole from [...] to [...], with a view to providing recommendations to the General Assembly on progress in the implementation of the second cycle, and encourages the widest possible attendance of participants in the Ad Hoc Working Group.

IV. Guidance for the Bureau, the Group of Experts and the secretariat of the Regular Process concerning the implementation of the second cycle of the Regular Process

21. The Ad Hoc Working Group of the Whole decides to:

(a) Request the Group of Experts to prepare a revised preliminary timetable and implementation plan for the second world ocean assessment;

(b) Also request the Group of Experts to advise as soon as possible on the areas in which the required expertise for the preparation of the second world ocean assessment may be lacking and on the regions which to date have been

[11] See resolution 69/245, para. 277.

underrepresented in the Pool of Experts, and request the secretariat to transmit a request to States to nominate, and to intergovernmental organizations to recommend, experts from the underrepresented regions and with the relevant expertise;

(c) Further request the Group of Experts to prepare, in the light of the comments received at the eleventh meeting of the Ad Hoc Working Group of the Whole, the annotated outline for the second world ocean assessment;

(d) Request its Bureau to consider and adopt the revised preliminary timetable and implementation plan for the second world ocean assessment, keep it under review and oversee its implementation;

(e) Also request its Bureau to consider and adopt the annotated outline for the second world ocean assessment;

(f) Further request its Bureau to review the mechanism for the establishment of the Pool of Experts for the second cycle of the Regular Process, developed by the Bureau of the Ad Hoc Working Group of the Whole in accordance with paragraph 311 of General Assembly resolution 71/257;

(g) Request its Bureau to continue to oversee the ongoing process of the constitution of writing teams for the preparation of the second world ocean assessment;

(h) Also request its Bureau, in consultation with the Group of Experts and the secretariat, to finalize the concept note and draft agenda for the multi-stakeholder dialogue and capacity-building partnership event in the light of the comments received and discussions at the eleventh meeting of the Ad Hoc Working Group of the Whole;

(i) Request the secretariat to invite States, intergovernmental organizations and non-governmental organizations to contribute to the multi-stakeholder dialogue and capacity-building partnership event, including by nominating panellists, with due attention given to equitable geographical representation and gender balance in the selection of panellists;

(j) Request its Bureau, in consultation with the Group of Experts and the secretariat, to draw up a list of panellists for the multi-stakeholder dialogue and capacity-building partnership event from representatives of States, intergovernmental organizations and non-governmental organizations.

Annex I

Report on the preliminary timetable and implementation plan for the second cycle of the Regular Process for Global Reporting and Assessment of the State of the Marine Environment, including Socioeconomic Aspects

Note by the Joint Coordinators

1. The present note reports on progress in the implementation of the preliminary timetable and implementation plan for the second cycle of the Regular Process for Global Reporting and Assessment of the State of the Marine Environment, including Socioeconomic Aspects, which was presented to the Ad Hoc Working Group of the Whole on the Regular Process at its tenth meeting, held on 28 February and 1 March 2018. The Working Group took note of the preliminary timetable and implementation plan and requested the Bureau to oversee its implementation.

Main tasks

2. For the period from 1 January to 23 August 2018 (the date of the opening of the eleventh meeting of the Working Group), the timetable and implementation plan foresaw seven main activities:

(a) The population of the Pool of Experts on the basis of the mechanism for the establishment of the Pool of Experts for the second cycle of the Regular Process adopted by the Bureau;

(b) The development and approval of the outline for the second world ocean assessment;

(c) The designation of lead members and co-lead members for the various chapters of the approved outline from among the Group of Experts of the Regular Process;

(d) The formation of writing teams for the various chapters of the approved outline;

(e) The development of guidance on formatting and size of the various chapters of the approved outline;

(f) The commencement of the second round of regional workshops in support of the second cycle of the Regular Process;

(g) Virtual meetings of the Group of Experts to prepare a report for the eleventh meeting of the Working Group.

Website and communications

3. The fundamental tools for the work of the Group of Experts were expected to be a new website, which would provide a secure and accessible base for documents and information for the Group, and a secure communications system for the exchange of ideas and documents within the Group.

4. Unfortunately, those tools only became available in July and August 2018. The new website became operational on 25 July 2018, but still does not contain the full database on the members of the Pool of Experts, although this is expected to be achieved soon. Access for the Group of Experts to the Unite Connections system (which had provided a secure document store and means of communication) was withdrawn owing to reasons beyond the secretariat's control. Happily, access for the Group is due to be restored soon.

5. The secretariat has been very proactive in devising means of working around the lack of these facilities, a lack owing to causes entirely outside its control. In particular, the secretariat has been able to provide to the Group of Experts, upon request, information from the personal history forms of members of the Pool of Experts so as to help to identify candidate experts for specific writing teams. Although very helpful, even this workaround suffers from the problem that electronic versions of personal history forms are not available for all members of the Pool of Experts (owing to non-submission by the experts themselves), especially those who were members of the Pool of Experts during the first cycle of the Regular Process and who were invited to continue to support the Regular Process. Even when the database for the Pool of Experts is operational, it may take time to get all the members of the Pool to complete and update their entries. This may therefore continue to constrain progress. It has also been possible to devise other workarounds. For example, some information has been stored on a Dropbox site. Unfortunately, the information technology systems of institutions and/or countries in which some members of the Group of Experts work do not allow access to that website, and so material has had to be communicated by email, further constraining progress.

6. In relation to the Unite Connections system, at the start of the second cycle, the Group of Experts used the system to communicate and upload documents. Increasingly, during 2017, some members of the Group of Experts found the system difficult to use, while others had difficulties in accessing the system because of incompatibilities with their national or local information technology systems. This led to a drop in usage and increased use of email communication. As a result of this drop, the Unite Connections service was withdrawn in 2018. A new Unite Connections communication system will soon be activated, and the secretariat has helpfully offered to assist in overcoming the problems that had earlier caused difficulties.

Population of the Pool of Experts

7. Good progress has been made in populating the Pool of Experts. A number of members of the Pool of Experts from the first cycle have agreed to continue. Further nominations in accordance with the mechanisms have been made, bringing the total as at 27 June 2018 to 531. Broken down by the regional groupings in the General Assembly, the number of experts is as follows:

Regional group	*Number of experts*
African States	43
Asia-Pacific States	91
Eastern European States	6
Latin American and Caribbean States	119
Western European and other States	272
Total	**531**

8. However, there remain a number of fields of expertise where coverage is thin, particularly in relation to some geographical areas.

Outline

9. The outline for the second world ocean assessment was approved at the tenth meeting of the Working Group, held on 28 February and 1 March 2018.

Designation of lead and co-lead members of the Group of Experts

10. Lead and co-lead members have been designated for all the chapters. For chapter I (summary), the Joint Coordinators have been designated as lead members, and all the other members of the Group of Experts as co-lead members. For all of the other chapters, a single member has been designated as lead member, with responsibility for ensuring the production of the chapter, with one or more co-lead members to assist. A table setting out the allocations is contained in enclosure II to the note on the annotated outline (annex II).

Formation of writing teams

11. The formation of writing teams has been hampered by the lack of suitable information technology support. As explained above, there have been problems in accessing information about the expertise of members of the Pool of Experts to identify who would be appropriate for specific writing teams. This is a particular difficulty where there is a wide range of issues to be covered within a field of expertise. The work carried out by the secretariat in providing access to information from personal history forms (as described above) has been helpful and has assisted in identifying members for some writing teams. As and when the database on the Pool of Experts is made available, this task will be simplified, although the problems of the absence of electronic personal history forms for some experts will remain until they have entered their details in the database.

12. Nevertheless, invitations have been issued in relation to 29 writing teams. None have yet been submitted for approval, since a large number of invitations are still pending, and in a number of cases the available contact information is incorrect and action will need to be taken to find a usable means of contact. The enclosure to the present note contains a table showing the status of each chapter with regard to the formation of the writing teams (or section of a chapter where a separate writing team appears to be likely to be needed).

Guidance on formatting and size

13. A template has been developed to give guidance on these issues (see annex II, enclosure I). This will be a "living document" and will be amended from time to time.

Second round of regional workshops

14. The original plan was that there would be five regional workshops in the second round: for the North Atlantic and adjacent seas, for the South Atlantic, for the North Pacific, for the South Pacific and for the Indian Ocean and adjacent seas. Regional issues relating to the Arctic and Southern Oceans are intended to be pursued through correspondence with the organizations of the Antarctic Treaty System and the Arctic Council.

15. The secretariat invited offers to host the workshops. In relation to the North Atlantic and adjacent seas and the Indian Ocean and adjacent seas, offers were received from two States from each region to act as hosts: Malta and Ukraine for the North Atlantic and adjacent seas, and Indonesia and Qatar for the Indian Ocean and adjacent seas. The Bureau considered those offers and agreed that both offers should be accepted, with the result that there will be two workshops for each of the two regions. Palau hosted the regional workshop for the North Pacific in Koror on 8 and 9 August 2018. One State has put forward an offer to host a workshop for the South Atlantic, but has yet to confirm it formally. The Permanent Commission for the South Pacific, supported by the Government of Ecuador, has recently confirmed its intention to host the regional workshop for the ocean region of the South Pacific.

16. It was intended that the focus of each workshop should be a selection of chapters (or sections of chapters), and that efforts should be made to arrange the attendance of members of writing teams for those chapters (or sections of chapters). The challenges in allocating members of the Pool of Experts to writing teams made it difficult to fulfil this approach. Instead, the focuses of (at least the earlier) workshops have been placed on chapters for which members of the Group of Experts who would be attending the workshop are lead members, and are therefore well placed to lead the discussion.

17. The workshop for the North Atlantic and adjacent seas to be held in Malta had been planned for late July 2018. The original intention for the second round of regional workshops was that they should focus on selected chapters, and that steps should be taken to ensure the attendance of members of the writing teams for those chapters. Because of the difficulties in creating writing teams, it proved impossible to select chapters and construct a workable agenda on that basis in time for the original proposed date to be achieved, and the workshop had to be postponed. A different approach has therefore been adopted for the earlier workshops, under which the chapters of focus of the workshops were selected on the basis of the availability of the lead members of the Group of Experts from the region in question, who could be expected to attend to lead the discussions on those chapters. It is hoped that later workshops can be organized so as to maximize attendance from members of writing teams.

18. The first workshop for the North Atlantic and adjacent seas is now due to be held in Malta on 27 and 28 August. The second workshop for the North Atlantic and adjacent seas is planned to be held in Odessa, Ukraine, on 17 and 18 October 2018. The workshops for the Indian Ocean and adjacent seas in Indonesia and Qatar are planned for November 2018, but precise dates have not yet been confirmed.

Virtual meetings of the Group of Experts

19. Virtual meetings of the Group of Experts have been held as and when necessary. Because of the dispersal of the members of the Group around the world, it has been necessary to hold such meetings in two stages, basically one for east longitudes and one for west longitudes, with one or both Joint Coordinators taking part in both and thus ensuring consistency and coherence.

20. The meeting scheduled in the timetable for 13–17 August 2018 was advanced to 30 July–1 August in order to permit a draft of the present note to be presented to the Bureau on 14 August before being submitted to the Ad Hoc Working Group of the Whole.

Enclosure

Status of each chapter with regard to formation of writing teams

Chapter or section	*Topic*	*Writing team invited*	*Response pending*	*Accepted or refused*	*Submit to Bureau*	*Agreed*
1	Summary	Group of Experts of the Regular Process collectively				
2	Approach to the assessment	Lead and co-lead members				
3	Scientific understanding					
4	Drivers					
5	Physical and chemical state of the ocean					
6	Biota biodiversity	Overview by lead and co-lead members				
6A	Plankton	Yes		Yes		
6B	Invertebrates	Yes		Yes		
6C	Fish	Yes		Yes		
6D	Marine mammals	Partly		Partly		
6E	Marine reptiles	Yes		Yes		
6F	Seabirds	Yes	Yes			
6G and 6H	Marine plants and macroalgae	Partly	Yes			
7	Habitat biodiversity	Overview by lead and co-lead members				
7A	Sand and mud substrates					
7B	Rocky substrates and reefs					
7C	Intertidal zone					
7D	Atoll and tidal lagoons					
7E	Tropical and subtropical coral reefs					
7F	Cold water corals	Yes	Partly	Partly		
7G	Estuaries and deltas	Yes				
7H	Kelp forests and algal beds	Partly	Yes			
7I	Seagrass meadows	Partly	Yes			
7J	Mangroves	Partly	Yes			
7K	Salt marshes	Partly	Yes			
7L	Submarine canyons					
7M	High-latitude ice	Yes	Yes			
7N	Seamounts and pinnacles	Partly	Yes			

Chapter or section	*Topic*	*Writing team invited*	*Response pending*	*Accepted or refused*	*Submit to Bureau*	*Agreed*
7O	Abyssal plains					
7P	Open ocean					
7Q	Ridges, plateaus and trenches					
7R	Hydrothermal vents and cold seeps	Yes	Yes			
7S	Sargasso Sea	Yes	Yes			
8	Human society	Overview by lead and co-lead members				
8A	Coastal communities					
8B	Human health					
8C	Maritime industries					
8D	Maritime culture					
9	Climate pressures	Overview by lead and co-lead members				
9A	Ocean physics	Yes	Yes			
9B	Ocean chemistry	Partly	Yes			
9C	Extreme climate events	Partly	Yes			
10	Nutrient inputs	Yes	Yes			
11	Other inputs	Overview by lead and co-lead members				
11A	Persistent organic pollutants					
11B	Metals					
11C	Radioactive substances					
11D	Pharmaceuticals					
11E	Atmospheric inputs					
11F	Hydrocarbons					
11G	Offshore inputs					
11H	Contaminant concentrations					
12	Solid waste					
13	Erosion and sedimentation					
14	Infrastructure					
15	Capture fisheries	Yes		Yes		
16	Aquaculture					
17	Seaweed	Partly				
18	Desalinization and salt					

Chapter or section	*Topic*	*Writing team invited*	*Response pending*	*Accepted or refused*	*Submit to Bureau*	*Agreed*
19	Seabed mining					
20	Offshore hydrocarbons					
21	Noise	Yes		Yes		
22	Renewable energy	Yes		Yes		
23	Marine transport					
24	Tourism and recreation					
25	Invasive species	Yes		Yes		
26	Marine genetic resources	Yes	Yes			
27	Marine hydrates					
28	Cumulative impacts					
29	Marine spatial planning	Partly				
30	Management approaches	Yes	Yes			
31	Overall benefits					

Annex II

Annotated outline for the second world ocean assessment

Note by the Joint Coordinators

1. At its tenth meeting, held on 28 February and 1 March 2018, the Ad Hoc Working Group of the Whole on the Regular Process for Global Reporting and Assessment of the State of the Marine Environment, including Socioeconomic Aspects, following discussions on the revised draft outline presented by the Joint Coordinators of the Group of Experts of the Regular Process, approved the outline for the second world ocean assessment and requested the Group of Experts to prepare an annotated outline for the second world ocean assessment for the eleventh meeting of the Working Group, to be held on 23 and 24 August 2018.[12]

2. A proper annotated outline for the second world ocean assessment can only be prepared when the writing teams for the various chapters and sections are in place and can consider how they wish to develop the various chapters within the structure of the approved outline. It would also require an opportunity for the Group of Experts to have a thorough discussion in person (similar to that which took place to develop the draft outline). Given that the preparation of an annotated outline was not foreseen beforehand, no specific meeting was included in the timetable and implementation plan for the assessment (provided to the Working Group and approved at its tenth meeting) to provide such an opportunity.

3. For the reasons explained in the report of the Joint Coordinators on the preliminary timetable and implementation plan, the assembling of writing teams is still under way for most of the chapters (there are some that have been finalized, in particular for some of the sections within chapters 6 and 7 where individual writing teams are needed). In setting up writing teams it is important to ensure a good distribution of experts from around the world so that the situation in each ocean basin is properly covered in each chapter. Regard must also be given to gender balance.

4. Given the above need for writing team involvement, a comprehensive annotated outline therefore cannot be provided at this stage. The Group of Experts is not in a position to anticipate how the conveners and members of the writing teams will propose to develop the themes specified in the approved outline.

5. With the agreement and input of the other members of the Group of Experts, the Joint Coordinators have therefore agreed to submit the present note setting out their views as on the likely development of the outline so as to provide a basis for discussion at the eleventh meeting of the Working Group on the future development of the outline. The note is set out under the chapter and section headings specified in bold type in the approved outline, since the outline provides that these would form part of the structure of the second world ocean assessment. Not all section headings from chapters have been reproduced in the present note for brevity. The chapters, however, will definitely cover all of the fields specified in such headings, although the structure of the headings will not necessarily be followed.

6. In addition, the Group of Experts has developed a template for the chapters of the second world ocean assessment, expanding the guidance given in the initial background to the outline for the second world ocean assessment. This is contained in enclosure I. It will be revised from time to time in the light of experience gained. Moreover, the list of the lead and co-lead members for the chapters of the outline for

[12] See A/73/74.

the second world ocean assessment, also developed by the Group of Experts, is contained in enclosure II.

7. As stated in the approved outline, each chapter (or each section of each chapter), other than chapters 1–4, would include:

(a) A one-paragraph abstract of the chapter or section;

(b) A very short summary of the situation recorded in World Ocean Assessment I;

(c) A description of environmental changes between 2010 and 2020;

(d) A description of the economic and social consequences and/or of the other economic or social changes (including, where appropriate, changes in global distribution of benefits and disbenefits and issues related to concepts of natural capital);

(e) A description of the main information gaps in relation to the subject matter;

(f) A description of the main capacity-building gaps in the field.

8. Again, as set out in the approved outline, where appropriate, each chapter or section would review separately the situation in the various ocean regions (Arctic, North Atlantic, South Atlantic, Indian Ocean, North Pacific, South Pacific and Southern Ocean).

9. Finally, as set out in the approved outline, where appropriate, each chapter will contain an explicit evaluation of how the developments described in the chapter are contributing to the achievement of relevant Sustainable Development Goals. The writing team for each chapter will be asked to consider the Goals thus identified that are relevant to its chapter, and whether any further Goals need to be considered in that chapter. Chapter 1 (overall summary) will include an overview of those evaluations for all relevant Goals.

Part 1: Summary

Chapter 1: Overall summary

This chapter will be developed by the Group of Experts collectively, under the leadership of the Joint Coordinators. In particular, it will focus on issues relevant to the 2030 Agenda for Sustainable Development, including those highlighted in the technical abstract of World Ocean Assessment I relating to the 2030 Agenda.

Part 2: Introduction

Chapter 2: Approach to the assessment

Sections (a) (purpose of the assessment) and (b) (approach of the assessment) of this chapter are largely sketched out in the approved outline, some of it with full text. It will be developed to fill out the full text of the remaining parts specified in the outline.

Section (c) (further detail on the drivers-pressures-state-impact-response approach and ecosystem services) will provide an overview of the drivers-pressures-state-impact-response framework and the latest developments in the use of the framework. It will also provide an update on the understanding of ecosystem services

provided by the marine environment, building on the baselines provided in chapters 4–9 of the first assessment.

Chapter 3: Scientific understanding of the ocean

This chapter covers the fundamental basis for the rest of the assessment. In developing the chapter, consideration will be given to the first *Global Ocean Science Report*, published by the Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organization in 2017, and the decision of the General Assembly in December 2017 to proclaim the United Nations Decade of Ocean Science for Sustainable Development for the period 2021–2030 (resolution 72/73). The outline specifies that it should cover recent step-change improvements in understanding the ocean, including: physical and chemical properties of the ocean; ocean bathymetry; ocean circulation; effects on biota of anthropogenic noise; and sources of marine debris. In the light of the remit of the Regular Process, it will also need to consider whether there has been comparable progress in understanding economic and social aspects of the ocean.

Part 3: Drivers of changes in the marine environment

Chapter 4: Drivers

A substantial amount of work has been done on issues relating to how to define "drivers" and what is driving environmental, economic and social changes in the world's environment in the global assessment under the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. This chapter will need to take account of this work as well as other work detailing the planetary socioeconomic changes that are driving change in the marine environment. The sections included in this chapter (as approved) include:

(a) Developments in human population (especially populations in coastal areas);

(b) Development aspirations:

(i) Food security and food safety;

(ii) Resource use (including demand for metals and hydrocarbons and the use of marine genetic resources);

(iii) Energy;

(iv) Transport;

(v) Leisure and recreation;

(c) Drive to sustainability (including the Sustainable Development Goals);

(d) Cultural needs and aspirations;

(e) Contributions from improved technologies.

Part 4: Current state of the marine environment and its trends

The structure of the approved outline for the second world ocean assessment is significantly different from that of World Ocean Assessment I. This is to meet the

wishes, expressed in the first round of regional workshops, that the second assessment follow more closely the drivers-pressures-state-impact-response approach, and to provide an update on any changes to the baselines set out in the first assessment. Part 4 therefore concentrates on changes to the **state** of various aspects of the ocean, while part 5 looks at changes to key **pressures** that are leading to the changed states of those aspects.

Chapter 5: Trends in the physical and chemical state of the ocean

The sections within this chapter are well-recognized specialisms within the general discipline of oceanography, and the relevant writing teams will need to evaluate which developments in the state of these disciplines can be regarded as the "step-changes" from the baseline set out in World Ocean Assessment I, to which the approved outline refers. The potential overlaps in describing change in the physical and chemical state of the ocean with chapter 9, on the pressures from changes in the climate and associated changes since the first assessment, will need to be considered.

(a) **Sea temperature**;

(b) **Sea levels**;

(c) **Salinity**;

(d) **Ocean circulation**;

(e) **Sea ice**;

(f) **Ocean chemistry, including ocean acidification**;

(g) **Dissolved oxygen**.

Together with chapter 9, this chapter will be an appropriate place to update information on issues identified in the technical abstract of World Ocean Assessment I on the impacts of climate change and related changes in the atmosphere on the ocean.

Chapter 6: Trends in the biodiversity of main taxa of marine biota

As the approved outline provides, the biodiversity of taxa will be described in terms of abundance, distribution, productivity and diversity within the taxon. Separate writing teams will be needed for many of the sections of this chapter and it is likely that in order to consider the vast diversity of species within each taxon, each section of the chapter will need to be further subdivided on the basis of major taxonomic groups. In addition to the specific chapters on species of concern in World Ocean Assessment I, many of these taxa were described in the regional chapters of that assessment, on the seven ocean basins and the open ocean deep sea. The descriptions in the second assessment will bring together the global description with regional observations, as appropriate, in fulfilment of the guidance on regional aspects in the approved outline.

(a) **Plankton**: as in chapter 6 of World Ocean Assessment I, this section will need to consider net primary production in the ocean as well as other components of the plankton community and the various factors that are driving any changes observed from the baseline identified in the first assessment and the implications of those changes for society.

It will be for consideration whether issues such as the impact on primary production and plankton of microparticles and nanoparticles of plastic and other substances (such as titanium dioxide) are better considered here or in the chapters on

the inputs of hazardous substances and solid waste. In World Ocean Assessment I, they were considered in conjunction with primary production.

The section will also consider the state of microbes and viruses in the ocean; it is to be noted that the absence of a thorough consideration of microbes and viruses was a point of criticism of World Ocean Assessment I. It is therefore likely to be necessary to provide material on those taxa in order to give the baseline, which was missing from World Ocean Assessment I. In the regional workshop for the North Pacific, held in Palau on 8 and 9 August 2018, it was proposed that the description of "microbes and viruses" would be better as "bacteria and viruses".

(b) **Marine invertebrates**: these taxa were considered in World Ocean Assessment I in the eight regional chapters (36A-36H). This section of chapter 6 will therefore bring together the information on regional aspects of the current state of marine invertebrates in the one place. Any potential overlaps in describing change in the state of marine invertebrates in relation to the factors driving those changes to be described in chapter 15 (capture fisheries and harvesting of wild marine invertebrates) will be considered along with that chapter.

(c) **Fish**: as with marine invertebrates, this section will bring together information that was covered across the regional chapters in the first assessment. It will also be necessary for this section to include the developments in respect of sharks, other elasmobranchs, tuna and billfish, which were covered by separate chapters (chaps. 40 and 41). Again, the potential overlaps in describing change in the biodiversity of fish, particularly in relation to the factors driving those changes, with chapter 15, on the pressures from changes in capture fisheries, will need to be considered.

(d) **Marine mammals**: this section will provide an update on changes from the baselines provided in chapter 37 of the first assessment.

(e) **Marine reptiles**: this section will provide an update on changes from the baselines provided in chapter 39 of the first assessment.

(f) **Seabirds**: this section will provide an update on changes from the baselines provided in chapter 38 of World Ocean Assessment I.

(g) **Marine plants**: the state of biodiversity of marine plants was considered in chapters 47–49 and to a lesser extent in the regional chapters of World Ocean Assessment I. This section will therefore bring together the information on regional aspects of the current state of marine plants in the one chapter. The potential overlaps in describing change in the state of marine plant biodiversity with chapter 7, which contains sections on changes in the state of seagrass meadows, mangroves and salt marshes since the first assessment, will need to be considered.

(h) **Macroalgae**: in World Ocean Assessment I, the state of macroalgae was considered mainly in chapter 47, which included baselines for kelp forests and seagrass meadows. It is now intended that the broader taxa of macroalgae be included in a section of chapter 6 that is separate from other marine plants, recognizing the broader taxonomic diversity of macroalgae. The state of the floating species of *Sargassum* macroalgae will be considered with the habitat of the Sargasso Sea, given the integral contribution the species makes to that habitat.

Chapter 7: Trends in the state of biodiversity in marine habitats

As the approved outline provides, changes in the state of biodiversity in marine habitats will be described in terms of diversity, abundance, distribution and productivity and what the implications of change might mean for habitat functioning and the provision of ecosystem services. Baselines for the first four sections of this chapter were described in the eight regional chapters of World Ocean Assessment I. In the second assessment, the sections of chapter 7 will allow for changes in each of the habitats to be clearly articulated in distinct sections and, where global baselines were not provided in the first assessment, for these to be provided.

(a) **Sand and mud substrates (soft bottom)**: the potential overlaps in describing change in the state of sand and mud substrate biodiversity with other habitat sections, in particular those on island lagoons, estuaries and deltas and seagrass meadows, will need to be considered.

(b) **Rocky substrates and reefs**: the potential overlaps in describing change in the state of rocky substrate and reef biodiversity with other habitat sections, in particular the two sections on corals and the section on intertidal zones, will need to be considered.

(c) **Intertidal zone**: the potential overlaps in describing change in the state of intertidal zone biodiversity with other habitat sections, in particular that on rocky substrates, will need to be considered.

(d) **Atoll and island lagoons**: the potential overlaps in describing change in the state of atoll and island lagoon biodiversity with other habitat sections, in particular those on sand and mud substrates and tropical coral reefs, will need to be considered.

(e) **Tropical and subtropical coral reefs**: the recognized and well-reported rapid change in these habitats will need to be related to the baseline provided in chapter 43 of World Ocean Assessment I.

(f) **Cold-water corals**: this section will need to describe the developments from the baselines described in chapter 42 of World Ocean Assessment I.

The following eight sections represent an attempt to develop a more rational structure for describing coastal habitats than that provided in the first assessment. They will largely build on the baselines provided in chapters 44 and 47–49, together with part of chapter 51 (in which submarine features were described) of World Ocean Assessment I. Habitats associated with algal species have been separated from seagrass meadows and the diversity of communities associated recognized by expanding the discussion of changes in biodiversity to include algal beds as well as kelp forests. The unique communities associated with submarine canyons have also been recognized as a distinct point of discussion. The regional workshop for the North Pacific, held in Palau on 8 and 9 August 2018, suggested that the section on submarine canyons should also include continental slopes. Particular considerations for overlaps with other sections of the chapter are detailed individually.

(g) **Estuaries and deltas**: the potential overlaps in describing change in the state of estuary and delta biodiversity with sand and mud substrate and mangrove biodiversity will need to be considered.

(h) **Kelp forests and algal beds**: the potential overlaps in describing change in the state of kelp forest and algal bed biodiversity with rocky substrate and reef biodiversity will need to be considered.

(i) **Seagrass meadows**: the potential overlaps in describing change in the state of seagrass meadow biodiversity with sand and mud substrate and estuary and delta biodiversity will need to be considered.

(j) **Mangroves**: the potential overlaps in describing change in the state of mangrove biodiversity with estuary and delta biodiversity will need to be considered.

(k) **Salt marshes**: the potential overlaps in describing change in the state of salt marsh biodiversity with the intertidal zone will need to be considered.

(l) **Submarine canyons**: as noted above, the regional workshop held in Palau has proposed that this should be extended to cover the continental slopes as well.

(m) **High-latitude ice (including that over areas of open ocean)**: this section will build on the baseline provided in chapter 46 of World Ocean Assessment I. It will also need to build on the baselines provided in chapters 36G and 36H (Arctic and Southern Oceans). Outputs from the monitoring programmes of the Arctic Council and the Commission for the Conservation of Antarctic Marine Living Resources and the research programmes Integrating Climate and Ecosystem Dynamics in the Southern Ocean, Ecosystem Studies of Subarctic and Arctic Seas and that of the Scientific Committee on Antarctic Research will provide important inputs to this section.

(n) **Seamounts and pinnacles**: this section will build on the baselines provided in chapter 51 of the first assessment, as well as information provided in the regional chapters.

The following five sections represent an attempt to develop a better structure for dealing with the features of the ocean beyond the geophysical continental shelf. This revised structure is necessary to avoid the unsatisfactory situation whereby some aspects were dealt with in both chapter 36F and chapter 51 of the first assessment by different writing teams. These sections will be an appropriate place to build on the baselines and issues identified in the technical abstract of World Ocean Assessment I on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction.

(o) **Abyssal plains**;

(p) **Open ocean**;

(q) **Ridges, plateaus and trenches**;

(r) **Hydrothermal vents and cold seeps**: this section will build on the baselines provided in chapter 45 of the first assessment, as well as information provided in the regional chapters.

(s) **Sargasso Sea**: the Sargasso Sea is a unique ecosystem which is best studied and described as a unit. This will probably also be the best place to consider the problems of the floating mats of *Sargassum* that have been affecting both Caribbean islands and West African States.

Chapter 8: Trends in the state of human society in relation to the ocean

In World Ocean Assessment I, the aspects of human society related to the ocean were described in relation to the human activities that have an impact on the marine environment. In contrast to this, the approved outline requires a survey of the state of human society under four headings. These will build on the baselines provided across a number of themes that are described in various chapters of World Ocean Assessment

I. Identifying the changes in states associated with the four sections of this chapter will provide a more coherent picture of the socioeconomic and cultural aspects of the marine environment. Overlaps and synergies with other chapters of the second assessment (for example, those dealing with pollution and hazardous substances, shipping and fisheries) will need to be considered. Currently, the Pool of Experts contains experts identified as having expertise across the four sections of this chapter, but may not yet contain a sufficient range of experts to deal with this chapter.

(a) **Coastal communities**, including the coastal population, the size of coastal communities, their wealth or income and their vulnerability and adaptability to and dependency on the ocean (including dependence on, and engagement with, marine resources).

This section would bring together important aspects of the way in which human communities relate to the ocean. In World Ocean Assessment I, these aspects are scattered across a number of chapters and therefore do not present a coherent picture.

(b) **Human health as affected by the ocean**, including the health of coastal communities relative to inland communities, the effects of exposure to contaminated seawater, the scale of beach closures for health reasons and the extent to which food resources available from the sea create health problems through the content of hazardous substances (including metals, microplastics and nanoparticles) and pathogens in them.

This section would largely update various sections of chapter 20 (land-based inputs) of World Ocean Assessment I but would also expand some of the material in chapter 6 of that assessment (primary production).

(c) **Maritime industries**, including their economic performance, the role of freight transport in international trade, the role of ferries and coastwise shipping in internal transport, recruitment of workers, the proportion of their workers who are women, the rates of death of, and injury to, their workers, the protection of their working conditions, their levels of pay, maritime security, human trafficking, forced labour, which has also been referred to as "modern slavery", smuggling, access to markets and handling facilities for fisheries produce and the proportion of fisheries that are artisanal, culture-related or conducted by indigenous peoples.

This section will describe developments in relation to a number of issues related to maritime industries discussed in various chapters of World Ocean Assessment I, including the social aspects of fisheries (chap. 15), fishing vessels (chap. 17), maritime transport (chap. 17) and the coastal infrastructure and social aspects of tourism industries (chap. 27).

(d) **Maritime cultural services**, including the extent to which marine cultural resources are conserved, support for cultural activities linked to the sea, and the scale of use of objects from the sea that are valued for cultural reasons.

This section would update most of the material in chapter 8 of World Ocean Assessment I (aesthetic, cultural, religious and spiritual ecosystem services derived from the marine environment).

Part 5: Trends in pressures on the marine environment

The approved outline provides that each chapter or section in this part should include discussion of: (a) the impacts both on marine biota and habitats and on humans; (b) management measures (both adaptive and mitigatory) taken in response; and (c) the interplay between all terrestrial ecosystems (including mountain, hill, lowland and coastal ecosystems) and the ocean.

Chapter 9: Pressures from changes in climate and atmosphere

This chapter has clear linkages with chapter 5, where the state of the physical and chemical aspects of the ocean will be detailed. The potential overlaps and synergies between the two chapters will need to be considered as a result. While pressures that have an impact on the physical and chemical state of the ocean were not dealt with in a specific chapter in the first assessment, some aspects were detailed in chapters 4 and 5 of that assessment. The special report of the Intergovernmental Panel on Climate Change on the oceans and cryosphere will be prepared in parallel to the second world ocean assessment (it is due to be completed in September 2019). The next regular report of the Panel (sixth assessment report) will not be completed until the first half of 2022. This chapter will therefore need to follow the Panel's material as it is produced, relying on the relevant literature rather than directly on reports of the Panel. In addition, the outputs from the eighteenth meeting of the United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea, held in 2017, which focused its discussions on the topic "Effects of climate change on the oceans", will be informative for this chapter. This chapter will also be an appropriate place in which to update information on issues identified in the technical abstract of World Ocean Assessment I on the impacts of climate change and related changes in the atmosphere on the ocean. This chapter will comprise the following sections:

(a) **Physical properties of the ocean**, including changes in circulation and factors driving circulation, such as heat and stratification;

(b) **Ocean chemistry**, including salinity, carbon and nutrient cycling and ocean acidification;

(c) **Extreme climate events**, including changes in the interplay between climate change and natural climate phenomena.

Chapter 10: Changes in inputs to the marine environment of nutrients

This chapter will build on the baselines provided in chapter 20 of World Ocean Assessment I, which included a regional survey of what was known at the time about nutrient inputs and their effects. This may include outputs from new regional assessments reportedly being conducted by regional seas organizations in the eastern Indian Ocean and the South-East Pacific, as well as from regions with established monitoring systems.

Chapter 11: Changes in liquid and atmospheric inputs to the marine environment from land (including through groundwater), ships and offshore installations

This chapter will provide an update on the baselines provided in chapter 20 of World Ocean Assessment I. It also brings together updates on baselines relating to offshore installations (which were detailed in chapter 21) and shipping (which were detailed in chapter 17) into the one chapter, in order to provide a more comprehensive overview of changes in liquid and atmospheric inputs. Given the specificities associated with each of the sections within this chapter (listed below), separate writing teams may be needed to provide an update on each section.

(a) **Persistent organic pollutants**;

(b) **Metals**;

(c) **Radioactive substances (including naturally occurring radioactive material)**;

(d) **Personal care products, pharmaceuticals and nutraceuticals**;

(e) **Atmospheric pollutants**;

(f) **Hydrocarbons**;

(g) **Other substances used on, and discharged from, offshore installations**;

(h) **Distribution of, and trends in, contaminant concentrations**.

Chapter 12: Changes in inputs and distribution of solid waste in the marine environment (other than dredged material)

This chapter will provide an update to the baselines provided in chapter 24 of World Ocean Assessment I, dealing with the regular use of the ocean as a place for the disposal of solid waste. However, there is a partial and declining fulfilment of reporting obligations under the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972, and the 1996 Protocol thereto. Without better reporting, the second world ocean assessment will have difficulty in dealing with this aspect of this chapter.

This chapter will also provide an update to the baseline provided in chapter 25 (marine debris) of World Ocean Assessment I. The input of plastics (including microplastics and nanoplastics) into the marine environment has become a much more high-profile issue than it had been when that chapter was written. The chapter will cover activities resulting in marine debris, including plastics, abandoned fishing gear, microparticles and nanoparticles, and estimates of the sources from land, ships and offshore installations. It will draw on associated research on developing regional and global baselines. The outputs from the seventeenth meeting of the Informal Consultative Process, held in 2016, which focused its discussions on the topic "Marine debris, plastics and microplastics", will be informative for this chapter.

Chapter 13: Changes in erosion and sedimentation

This chapter will provide an update to baselines provided in chapter 26 (land/sea interaction) of World Ocean Assessment I. It has become increasingly clear that the management of inland areas (particularly in relation to forest clearance and the creation of dams) can have a significant impact on the marine environment through the increase or reduction in the sediment carried by watercourses to the sea. The absence of, or the increase in, the replenishment of sediment can significantly affect the coastal zone and its environment. Overlaps and synergies with chapter 9, particularly in association with changes in sea level and the intensity of storm events, will need to be considered.

Chapter 14: Changes in coastal and marine infrastructure

This chapter will provide an update to baselines provided across several chapters of World Ocean Assessment I, including chapter 18 (ports), chapter 19 (submarine cables and pipelines), chapter 26 (land/sea interaction) and chapter 27 (tourism and recreation). Bringing together content dispersed across these chapters in the first assessment will provide a coherent and comprehensive picture of the pressure

that developments in marine infrastructure are exerting on the marine environment. Specifically (as approved), the chapter will cover:

- Amounts of land reclaimed from the sea
- Extent of new land defences against the sea, and extent of sea defences abandoned
- Extent of coastal development, including development for tourism
- Other adaptations affecting coastal populations as a result of sea level rise
- Changes in port installations and their management, including dredging
- Changes in submarine cables and submarine pipelines.

Chapter 15: Changes in capture fisheries and harvesting of wild marine invertebrates

This chapter will build on the baselines provided in part IV of World Ocean Assessment I, which gave an overview of the situation with regard to food security and food safety in relation to food from the sea. This chapter is intended to update that overview in relation to levels of catches of fish, shellfish and other invertebrates, both within and beyond areas of national jurisdiction, and through commercial fisheries, artisanal (otherwise called small-scale) and subsistence fisheries. The Joint Coordinators consider that this should include more detail on the situation in the different ocean basins; part IV of the first assessment concentrated mainly on the global picture, and there is a need to update information on fisheries and harvesting included in the regional chapters of the first assessment in order to capture regional specificities.

This chapter will also need to consider the levels of by-catch and other impacts on vulnerable marine ecosystems and benthic ecosystems, the levels of post-harvest loss, the levels of fish-stock propagation and the use of marine protein in agriculture and aquaculture. It will also need to review estimated levels of illegal, unregulated and unreported fisheries and the levels of non-food harvesting (for example, for feedstocks for terrestrial stock-rearing). Given the broad range of fisheries and harvesting practices, a number of writing teams dealing with specific components of the chapter may be needed.

Chapter 16: Changes in aquaculture

Aquaculture (including mariculture) is a fast-growing activity within the marine environment. This chapter will need to update the baseline information in chapter 12 of World Ocean Assessment I.

Chapter 17: Changes in seaweed harvesting and use

This chapter will need to update the information in chapter 14 (seaweeds) of World Ocean Assessment I. The overview of the state of marine macroalgae will be dealt with in chapter 6H, as explained above. This chapter will therefore need to focus specifically on human uses of seaweed.

Chapter 18: Changes in desalinization and in the production of sea salt

Chapter 28 of World Ocean Assessment I reviewed the use of the desalinization of seawater to provide freshwater and showed the importance of this process for the Gulf States and some islands such as Malta, Okinawa, Japan, and Singapore. No experts in this field have yet been appointed to the Pool of Experts. This chapter will also need to update the material in chapter 8 of World Ocean Assessment I on marine salt production.

Chapter 19: Changes in seabed mining

This chapter will update chapter 23 (offshore mining) of World Ocean Assessment I. It will be important for the writing team for the chapter to consider updates in information from countries where mining within areas of national jurisdiction is significant, particularly in the "tin belt" in South-East Asia and where mining in areas beyond national jurisdiction is starting.

Chapter 20: Changes in hydrocarbon exploration and extraction

This chapter will provide an update to chapter 21 of World Ocean Assessment I. Issues relating to discharges and noise from this sector will now be dealt with in the chapters relating to those issues. It will be necessary for the decommissioning of offshore installations that have reached the end of their useful life to be considered in more detail in this chapter, since this issue will become more significant as more offshore oilfields and gas fields reach the end of their productive lives.

Chapter 21: Trends in inputs of anthropogenic noise to the marine environment

Inputs of anthropogenic noise into the marine environment were only considered in the first assessment under the chapters dealing with shipping and offshore hydrocarbon industries. Noise inputs are derived from many more sources than those two sectors. There has been an explosion in information on the measurement of inputs and their associated impacts over the past two decades, together with improved understanding of effects across all species (see chap. 3). This chapter will therefore provide the opportunity to give a more comprehensive and coherent treatment of this pressure. Global baselines will be provided for those aspects for which they were not provided in the first assessment. The outputs from the nineteenth meeting of the Informal Consultative Process, which focused its discussions on the topic "Anthropogenic underwater noise", will be informative for this chapter.

Chapter 22: Developments in renewable energy sources

This chapter will provide an update to material dealing with renewable energy sources in chapter 22 (other marine-based energy industries) of World Ocean Assessment I. Currently, the Pool of Experts, although containing a number of experts with expertise in renewable energy sources, does not cover the whole spectrum of renewable energy technologies and their environmental and economic impacts.

Chapter 23: Developments in marine transportation

This chapter will provide an update to the baselines provided in chapter 17 (shipping) of World Ocean Assessment I. Some of the baselines provided in that chapter (for pollution, noise, and economic and social aspects) will be included in chapter 8C (maritime industries), chapter 10 (nutrient inputs from ships' sewage), chapter 11 (land-based inputs other than nutrients), chapter 21 (noise) and chapter 25 (invasive species).

Chapter 24: Developments in tourism and recreation activities

This chapter will provide an update to the baselines provided in chapter 27 (tourism and recreation) of World Ocean Assessment I. Some aspects of that chapter will be considered elsewhere in the second world ocean assessment, especially the employment aspects in chapter 8 and tourist infrastructure in chapter 14.

Chapter 25: Invasive species

Invasive species were only dealt with in chapter 17 (shipping) of World Ocean Assessment I, in which they were discussed in relation to their transport by shipping and the resulting distribution of invasive species. This chapter will allow for a more comprehensive discussion of current understanding on marine invasive species, including transport in ballast water and on ships' hulls, the drivers of their distribution and establishment and their impacts on ecosystems.

Chapter 26: Developments in exploration and use of marine genetic resources

Chapter 29 (use of marine genetic resources) in World Ocean Assessment I explained the background to the exploration and research into the use of marine genetic resources, but noted that (the considerable potential in this field notwithstanding) there was only limited success in applying them to practical uses. This chapter will update the baseline provided in that chapter and will consider the current discussions on aspects of the use of marine genetic resources in the negotiations on an international instrument on biodiversity in areas beyond national jurisdiction.

Chapter 27: Marine hydrates — a potentially emerging issue

Investigations have shown that there are large amounts of marine hydrates (compounds of methane and water) forming in the marine environment, and that they have the potential to provide new energy sources. However, their decomposition and release can lead to a decrease in the stability of the seabed and significant increases in methane contributions to greenhouse gases. At present, the constraints of pressure and temperature prevent them both from being released and from being an economically viable prospect for extraction. Changes in ocean temperatures associated with climate change have the potential to relax those constraints. This chapter will cover this topic for the first time and therefore will need to provide a baseline on current understanding of and outlooks for their potential release and use.

Chapter 28: Cumulative impacts

It is increasingly being acknowledged that the management of marine environments needs to be integrated in such a way as to quantify and manage the cumulative nature of impacts from the multiple sectors utilizing marine environments (economic, social and cultural). Coverage of this topic in the first assessment was limited and dispersed across some of the regional chapters and some of the summary chapters (for example, chapter 54). Much research has been conducted on this theme in the past decade. This chapter therefore needs to summarize this research and provide a comprehensive baseline on current understanding, particularly of approaches to quantifying impacts across sectors and jurisdictions and outputs of those assessments.

Part 6: Trends in management approaches to the marine environment

World Ocean Assessment I did not contain a discussion of management approaches in general to the marine environment, partly because of the instruction not to carry out any policy analysis. However, it is clear that many of the frameworks and approaches that have been developed for the management of human activities in the ocean are relevant to the ocean assessment and there is merit in identifying these and ongoing developments in the science associated with the varying approaches. It is therefore appropriate to consider current understanding associated with the various management approaches aimed at limiting or mitigating pressures from human activities on the ocean.

Chapter 29: Developments in marine spatial planning

The techniques of marine spatial planning are increasingly being applied by many countries within their national jurisdiction. This chapter will provide a baseline of current approaches in the spatial planning of human activities. The outputs from the marine spatial planning programme of the Intergovernmental Oceanographic Commission, as well as the various regional programmes (for example, under the International Council for the Exploration of the Sea) will inform this chapter. This chapter will need to review the various techniques that are being used for this purpose in the context of the various national legal structures in order to demonstrate the crucial questions that need to be considered if marine spatial planning is to be applied.

Chapter 30: Developments in management approaches

In addition to marine spatial planning, which is important in reconciling potential conflicts between different sectors, a range of management approaches is being applied within and across sectors in the marine environment, aimed at ensuring that uses of the marine environment are sustainable. This chapter will provide a baseline of management approaches and frameworks, current research associated with the development of particularly integrated approaches to management and their regional application. *Specifically (as approved), the chapter will cover:*

- Ecosystem-based management approaches
- Culturally-based management approaches
- Community-based management approaches

- Area-based management tools, including marine protected areas and special areas (such as special areas under the International Convention for the Prevention of Pollution from Ships and Particularly Sensitive Sea Areas)
- Adaptation to climate change and resilience-building.

Chapter 31: Developments in the understanding of overall benefits from the ocean to humans

This chapter will provide an update to the baselines provided in chapter 55 (overall value of the ocean to humans) of World Ocean Assessment I, including the distribution of those benefits and the role in safeguarding those benefits of improved implementation of international law as reflected in the United Nations Convention on the Law of the Sea. In particular, the chapter will provide an update on current understanding of the services provided by the ocean, economic valuation of those services and any developments associated with preserving and enhancing those benefits, including implementation of international law as reflected in the Convention.

Enclosure I

Template for chapters of the second world ocean assessment

This template is proposed to be implemented across all chapters. It aims to provide a consistent structure to the chapters of the assessment and ensure that all chapters address the aims of the assessment. It is intended to be broad brush to ensure its applicability across chapters. Chapters should aim to be a maximum of nine pages, or 3,000 words, and follow the format set out for chapters and provided to writing teams. Chapters should include a maximum of four tables (including those set out in the present template) and four figures. Where a chapter is divided into multiple sections (shown in the outline in bold type), a maximum of four pages for both items 3 and 4 may be used for each section, together with a corresponding increase in the number of tables. This applies in particular to chapters 6 and 7. Where the second world ocean assessment will need to include new material to provide a baseline that is not provided by World Ocean Assessment I, a further four pages can be allowed. If the writing team for a chapter thinks that lengthier treatment can be justified, it should discuss with the lead member for the chapter in the Group of Experts of the Regular Process, who can seek the agreement of the Group to a larger allocation.

1. Keynote points: a one-paragraph abstract of the chapter or section

Three to five points summarizing the key results of the chapter. The key findings are intended to provide the reader with a rapid and brief understanding of the main findings of the chapter's assessment.

2. Introduction, including a very short summary of the situation recorded in the First Global Integrated Marine Assessment (World Ocean Assessment I)

This should also provide a brief (maximum one page) introduction to the topic, including:

(a) The scope of the topic so that it is clear what the chapter will cover and what it will not. In particular, this section will identify where there are overlaps or interactions with other chapters and how these have been managed or minimized;

(b) How the topic is affected by and affects other components of the marine system (and where there might be relevant linkages with other chapters);

(c) How the topic is relevant to human communities and well-being (and where there may be relevant linkages with other chapters);

(d) A brief summary of the baseline state provided in the First Global Integrated Marine Assessment (World Ocean Assessment I);

(e) Advances in knowledge and capacity that have contributed to the evaluation of the change in state.

3. Description of the environmental changes (between 2010 and 2020)

Using World Ocean Assessment I as a baseline, provide detail (maximum four pages) on the change in state at the global level (and the uncertainty associated with the determination of that change) that has occurred for the topic (driver, pressure, state or response) since the baseline was established. This should be within the context of any established longer-term trend. This section of the chapter should identify clear linkages with other chapters, where relevant. It should include:

(a) Changes in the overall status (which can include physical or biological state);

(b) Factors associated with the change;

(c) Impacts of the change on and interactions with other components of the marine system.

4. Description of the economic and social consequences and/or the other economic or social changes (including, where appropriate, changes in the global distribution of benefits and disbenefits and issues related to concepts of natural capital)

A synopsis (maximum two pages, or up to six pages if section 3 is correspondingly reduced) of social, economic and cultural aspects associated with any change in state at the global level. This section of the chapter should identify clear linkages with other chapters where relevant. This should include:

(a) Currently observed consequences;

(b) Implications that the change in state may have for achieving the integrated set of global priorities and objectives set out under the Sustainable Development Goals of the 2030 Agenda for Sustainable Development. This should comprehensively include consideration of the interactions between Goals and any benefits and trade-offs between the Goals (noting that the ocean is relevant to all 17 of the Goals).[1]

5. Key region-specific changes and consequences

A synopsis (maximum one page) of important regional issues or aspects associated with the topic for any one or all (as relevant) of the regions:

(a) The Arctic Ocean;

(b) The North Atlantic Ocean, the Baltic Sea, the Black Sea, the Mediterranean and the North Sea;

(c) The South Atlantic Ocean and the Wider Caribbean;

(d) The Indian Ocean, the Arabian Sea, the Bay of Bengal, the Red Sea, the Gulf of Aden and the Persian Gulf;

(e) The North Pacific Ocean;

(f) The South Pacific Ocean;

(g) The Southern Ocean.

6. Outlook

A synopsis (maximum one page) of the outlook for the topic under a business-as-usual scenario, including:

(a) Anticipated outlook for the state of the topic over the near to medium term (around 10–20 years);

(b) Ecosystem consequences of continued change in the system;

[1] Various publications assessing the interactions of the Sustainable Development Goals are available, including: International Council for Science, "A guide to SDG interactions: from science to implementation" (Paris, 2017); Nippon Foundation — Nereus Programme, "Oceans and the Sustainable Development Goals: co-benefits, climate change and social equity" (Nereus Programme, 2017); and David Le Blanc, Clovis Freire and Marjo Vierros, "Mapping the linkages between oceans and other Sustainable Development Goals: a preliminary exploration", Department of Economic and Social Affairs working paper No. 149 (February 2017).

(c) Socioeconomic consequences of continued change in the system.

7. Key remaining knowledge gaps

A synopsis of remaining knowledge gaps and any regional aspects associated with the theme of the chapter.

8. Key remaining capacity-building gaps

A synopsis of the main remaining capacity-building gaps in the field.

Source table

Each chapter is to provide, as a minimum, a table showing a synopsis of the data and information used for the assessment, supporting transparency in each chapter assessment and allowing for compatibility and comparability of future assessments with the current assessment (this could also be included as an appendix). This is in addition to any necessary references.

Enclosure II

Designations of lead members and co-lead members

Note by the Joint Coordinators

The present note contains the list of the lead and co-lead members for the chapters of the outline for the second world ocean assessment. It has been revised in the light of the following:

(a) The conclusions of the Bureau of the Ad Hoc Working Group of the Whole, at its meeting held on 24 May 2018, that:

(i) The Joint Coordinators should be designated as lead members for chapter 1 (summary), with the rest of the Group of Experts as co-lead members;

(ii) There should be at least one co-lead member for every other chapter;

(b) The intended appointment of Henn Ojaveer (Estonia) to the Group of Experts on the nomination of the Eastern European States;

(c) Further comments from members of the Group of Experts.

Chap. No.	*Short description of topic*	*Lead member(s)*	*Co-lead member(s)*
1	Summary	Renison Ruwa and Alan Simcock	Maria Bebiano, Hilconida Calumpong, Sanae Chiba, Marco Espino, Karen Evans, Carlos García Soto, Osman Keh Kamara, Enrique Marschoff, Michelle McClure, Essam Mohammed, Henn Ojaveer, Chul Park, Ylenia Randrianarisoa, Anastasia Strati, Joshua Tuhumwire, Ca Thanh Vu, Juying Wang and Tymon Zielinski
2	Approach to the assessment	Alan Simcock	Carlos García Soto
3	Scientific understanding	Renison Ruwa	Sanae Chiba, Carlos García Soto and Tymon Zielinski
4	Drivers	Renison Ruwa	Osman Keh Kamara
5	Physical and chemical state of the ocean	Carlos García Soto	Karen Evans, Juying Wang and Tymon Zielinski
6	Biota diversity	Chul Park	Hilconida Calumpong, Karen Evans and Michelle McClure
7	Habitat diversity	Hilconida Calumpong	Sanae Chiba, Karen Evans, Michelle McClure, Enrique Marschoff, Renison Ruwa and Joshua Tuhumwire
8	Human society	Alan Simcock	Osman Keh Kamara, Essam Mohammed and Anastasia Strati
9	Climate pressures	Karen Evans	Sanae Chiba, Carlos García Soto, Michelle McClure and Ca Thanh Vu
10	Nutrient pollution	Juying Wang	Maria Bebiano

Chap. No.	*Short description of topic*	*Lead member(s)*	*Co-lead member(s)*
11	Chemical pollution	Maria Bebiano	Alan Simcock and Juying Wang
12	Solid waste	Maria Bebiano	Ca Thanh Vu and Juying Wang
13	Sedimentation	Ca Thanh Vu	Joshua Tuhumwire
14	Infrastructure	Ca Thanh Vu	Alan Simcock
15	Capture fisheries	Michelle McClure	Karen Evans, Enrique Marschoff, Essam Mohammed and Ylenia Randrianisoa
16	Aquaculture	Enrique Marschoff	Renison Ruwa
17	Seaweed	Hilconida Calumpong	Renison Ruwa
18	Salt	Alan Simcock	Carlos García Soto
19	Seabed mining	Joshua Tuhumwire	Maria Bebiano and Anastasia Strati
20	Offshore hydrocarbons	Joshua Tuhumwire	Alan Simcock
21	Noise	Karen Evans	Carlos García Soto
22	Renewable energy	Anastasia Strati	Carlos García Soto and Osman Keh Kamara
23	Shipping	Alan Simcock	Osman Keh Kamara
24	Tourism	Alan Simcock	Anastasia Strati
25	Invasive species	Chul Park	Henn Ojaveer and Renison Ruwa
26	Marine genetic resources	Sanae Chiba	Hilconida Calumpong
27	Marine hydrates	Alan Simcock	Carlos García Soto and Joshua Tuhumwire
28	Cumulative impacts	Karen Evans	Essam Mohammed and Alan Simcock
29	Marine spatial planning	Alan Simcock	Karen Evans and Ca Thanh Vu
30	Management approaches	Anastasia Strati	Hilconida Calumpong, Karen Evans, Essam Mohammed and Ca Thanh Vu
31	Overall benefits	Essam Mohammed	Osman Keh Kamara and Anastasia Strati
	Infographics	Sanae Chiba	